DOCUMENT RESUME

ED 305 322 SO 020 049

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TITLE A New Research Agenda for Pre-College Economic Education.
SPONS AGENCY Joint Council on Economic Education, New York, N.Y.
PUB DATE Apr 86
NOTE 12p.; Paper presented at the Annual Meeting of the Association of Private Enterprise Education (San Antonio, TX, April 7, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cognitive Measurement; *Economics Education; *Educational Assessment; Elementary Secondary Education; *Evaluation Needs; Evaluation Utilization; *Organizational Objectives; *Planning
IDENTIFIERS *Developmental Economic Education Program

ABSTRACT

The Joint Council on Economic Education (JCEE) contracted for the development of this research and evaluation agenda (or blueprint) for its Developmental Economic Education Program (DEEP). DEEP involves local school systems in a formal commitment to develop systematic programs in economic education curriculum using academically sound materials and teacher training programs offered by the JCEE and its affiliates. The steps in the agenda include: (1) a review of research on DEEP, 1964-1985; (2) the establishment of a new research orientation, including descriptive baseline data, analytical quantitative studies, and qualitative studies of DEEP activities; and (3) the determination of the future role of this research and evaluation agenda. Eleven references are included. (BZ)

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A NEW RESEARCH AGENDA FOR PRE-COLLEGE ECONOMIC EDUCATION

by

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April 1986

Prepared for the Association of Private Enterprise Education annual meetings, San Antonio, Texas, April 7, 1986. This draft was developed from earlier work with R. Highsmith, W. Walstad, and M. Watts, who bear no responsibility for errors or omissions herein. This draft should not be quoted, cited, or reproduced without explicit approval of the authors. J. S. Brenneke is the co-director of the Cleveland Center for Economic Education and J. C. Soper is the co-director of the Cleveland Center for Economic Education and associate professor of economics at John Carroll University. The authors are grateful to the Reseach and University Services Division of the Joint Council on Economic Education for grant support of earlier versions of this Agenda.

SO 020 049

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A NEW RESEARCH AGENDA FOR PRE-COLLEGE ECONOMIC EDUCATION

I. Introduction and Statement of Goals

Since 1964 the Joint Council on Economic Education and its national network of affiliated state Councils and college Centers for Economic Education have sponsored the Developmental Economic Education Program (DEEP). DEEP involves local school systems in a formal commitment to develop systematic programs in economic education curriculum using academically sound materials and teacher-training programs offered by the Joint Council on Economic Education (JCEE) and its affiliates.

In 1983, the JCEE initiated a major expansion and enhancement of DEEP with the objective of enrolling 70% of the nation's elementary and secondary students in this program by 1989.

Related to this expansion effort, the JCEE contracted in 1985 for the development of a DEEP research and evaluation agenda (or blueprint). This agenda, presented below, is intended to address several key needs by establishing steps to be completed on an explicit schedule which will permit and encourage evaluation and research into the effectiveness of this DEEP effort. In addition, because of this encouragement, it is expected that there will be a significant increase in the quality and quantity of research both on DEEP and on pre-college economics education in general. Results from these studies will be used to:

1. strengthen DEEP and make it as effective as possible;
2. encourage greater acceptance of and support for DEEP by local school districts, the economics profession, university educators, financial sponsors of economic education programs in the schools, and the public at large;
3. increase the quantity and quality of evaluations of pre-college economic education programs by local school districts; and
4. offer summary evidence on the effectiveness of DEEP to the various constituencies that are interested in pre-college economic education programs, and on the relationships between economics instruction provided as a part of the DEEP process and student learning in other subject areas.

II. A Review of Research on DEEP, 1964-1985

DEEP has proceeded in two phases. The first phase extended from 1964 through 1969 during which DEEP was proposed as an experimental teaching program involving 29 school systems from around the U.S. Phase II began in 1969 when DEEP was expanded and decentralized further through the state Councils and university Centers. The major expansion of DEEP, 1983-1989, appears to begin a third phase of DEEP progression.

Research conducted on the first phase of DEEP by the Psychological Corporation (January 1968 and August 1970) and Grobman shows it to be, in practice, a promising and potentially powerful process to achieve major revisions and improvements in the K-12 curriculum. At the same time, the second Psychological Corporation report and Maher's 1969 article indicate that many of the features which make it attractive to classroom teachers and school system administrators may result in inherent problems that must be resolved to make the program truly effective. A decentralized, voluntary infusion of economic education would be expected to work better if most teachers are well and currently trained in economics; if they are aware of many quality teaching materials on economics they feel they can use confidently with their students; and if they feel there is time available in the curriculum for increased instruction in basic economic concepts. Studies on the second phase of DEEP tend to question whether these conditions are being met. Armento, in her study of secondary curriculum guides developed by DEEP school districts, questioned the content and the conceptual level of the economics to be taught in grades 9-12. Finding that most concepts are to be taught at the introductory, definitional level, Armento questions the implementation of a progressive introduction of economics.

Becker, Helmberger, and Thompson found that the initial enthusiasm for new curricula in economics may not continue once the intensive DEEP programs are completed. Continued involvement with the school district is necessary to maintain this enthusiasm. Buckles and Freeman found that a traditional DEEP process can "result in significant increases in levels of economic understanding" however, it may require several years for this increase to show up.

Only a few rigorous, quantitative studies of DEEP across large numbers of school districts have been published. Soper and Brenneke, using data obtained from the national norming of the Test of Economic Literacy (TEL), found that students enrolled in DEEP school systems and having had instruction in economics scored higher. Students in DEEP systems without instruction in economics scored relatively lower. Subsequently, Walstad and Soper, by including an IQ-proxy variable and using a new data base, found that "the positive but relatively weak effects in both the cognitive and affective domains may provide initial justification for the substantial resources which have been devoted to trying to improve economics instruction in the DEEP schools." Recently, Watts, in a study of Indiana school districts, supported the weak positive connection between DEEP and student performance.

The research and evaluation efforts on DEEP thus far have been infrequently conducted and published, and even then relatively limited in scope and design. A few model studies of DEEP systems continue to show promising results and suggest that more extensive, frequent, and better coordinated studies should be worthwhile. Clearly with the Joint Council's decision to devote $11 million to its DEEP Expansion and Enhancement program, and its initiatives to have state and local support for DEEP increased congruently, there is a pressing need for an expanded and improved research and evaluation effort directed at DEEP.

III. A New Research Orientation

Over the next 5-10 years there are additional research and evaluation questions that must be answered. In addition, there is a distinct need for the development of instruments to be used in this research and evaluation, as well as additional interested parties that must be involved in the process.

A. Descriptive Baseline Data

Collection of "baseline" data on the general level of economic education in the schools is an immediate priority. Before it can be determined how successful any "new" program is, one must know current student understanding of economics. Descriptive quantitative studies examining questions such as the following will develop this baseline.

1. Questions examining the general level of economic knowledge of both students and teachers as well as their knowledge of selected concepts and their opinions on selected economic issues.
2. The amount and type of economics training taken by both students and teachers.
3. Barriers to increasing the quantity or quality of economics taught in the schools.
4. The economic content of existing teaching materials and texts.
5. The structure under which economics is taught: single course, articulated program between grade level and discipline; economics unit, by grade level or on occasion.

Network Participation. Questions such as these will involve the greatest number of non-traditional researchers. "Consumers of research" (the group of economists, educators, network directors, funders, DEEP Coordinators, and classroom teachers who make use of the results of research and/or evaluation studies) are essential in developing this baseline knowledge. They can provide the student or teacher data necessary to answer these questions. In turn, these baseline data can provide "consumers" with

information that may be used to develop new programming, modify existing programming, and to find funding to support programming efforts.

Efforts to involve individuals in the development of these baseline data could be enhanced through:

1. Conferences or workshops to examine existing research and evaluation and to promote and train individuals to collect missing data.

2. Encouragement from the JCEE for the collection of needed data. This encouragement may include: requests for assistance in giving tests to either students or teachers; requests for completion of questionnaires; mini-grants for data collection; or sharing of studies that are completed through published or informal means and encouragement of their replication.

Tools Needed. In order to collect these baseline data, additional instruments must be developed and disseminated by the JCEE. This cooperative effort is necessary to encourage combining of survey information and standardization of responses. Given that these instruments can be viewed as public goods (with little incentive for the market to commit the resources necessary for their production), it should be clear that the JCEE should commit its internal budgetary resources to their development. In addition, the JCEE has in place, a Research Advisory Committee which could provide input on drafts of these instruments.

1. Standardized cognitive test instruments should be set up on a regular 5-year revision schedule. In order of need, the following instruments should be revised: the TEL, JHSTE (preferably with two forms), TUCE, BET, and perhaps a new test, to be administered after formal schooling is completed, to determine the application of economic knowledge to "real-world" situations.

2. Survey instruments such as the following:
   a. "Standard" participant surveys for workshops, courses, or special programs need to be revised or developed.
   b. Forms or questionnaires for the collection of baseline data.
   c. Follow-up survey instruments specifically designed for DEEP.

3. Cognitive tests for teachers, if determined to be necessary. Currently, the high school TEL and the college TUCE are used for this purpose. Determination needs to be made of the need for a "hybrid" instrument specifically designed for this group.

4. In addition to cognitive instruments, a need exists for the development of additional attitudinal instruments.

5. Course or grade-specific competency tests may need to be developed or derived from the battery of cognitive tests available.

B. Analytical Quantitative Studies

Once baseline data has been collected, attention can be given to the testing of hypotheses and the creation of a stronger body of research or evaluation findings. Questions that must be answered through analytical quantitative studies include:

1. Determination of the most significant factors influencing student knowledge of economics or attitudes toward the subject.

2. What role does formal instruction play in the process of learning economics?

3. What is the impact of the following on student learning;
   a. teacher training
   b. textbook or other instructional materials or technologies
   c. learning systems (i.e., capstone course or integration)
   d. released time for DEEP coordination
   e. district spending levels for texts, materials, or teacher training

4. Does student attitude and knowledge in DEEP districts differ significantly from that in non-DEEP districts? Are there clear-cut differences in the levels of student performance for different types of DEEP involvement? Do the results improve as districts move through the DEEP process?

5. What is the relationship between economics learning and student learning in other subject areas?

Network Participation. Analytical quantitative studies require persons interested in, and capable of, the production of research studies to test these hypotheses. These persons must be able to build on the body of baseline knowledge. "Producers" of economics education research (those economists, educators, and network directors who have contributed, or may contribute in the future, to the body of published research and evaluation literature) can be encouraged and their number expanded through a series of activities. In addition, it is imperative that activities be undertaken to

encourage "consumers" of research in the feedback of results to modification of classroom activities or curriculum design. Activities which may encourage these objectives include:

1. Conferences or workshops to examine existing research on economics learning.

2. Workshops devoted to training "producers" of research in suggested methods and available tools. "Consumers" of research can be trained through their involvement in norming of test instruments or as reviewers of scholarly publications.

3. Opportunities at future meetings (network and related organizations) to present working papers on DEEP in order to elicit comment or assistance. Those that are new to DEEP research can act as reviewers or discussants.

4. Opportunities for publication (and sharing) of DEEP research.

5. Mini-grants for DEEP research to encourage these activities.

6. Current and correct results from DEEP research and evaluation should be provided in a timely fashion (including baseline data when available).

7. A "mentor system" can be inaugurated through which experienced researchers can be used for guidance or assistance by new researchers. Likewise, producers of research can assist consumers of their research in its application to activities being undertaken.

8. Special issues of related journals can be devoted to the implications of DEEP research for classroom teachers, curriculum planners, and school adminstrators.

C. Qualitative Studies of DEEP Activities

Because each DEEP program is unique it may be nearly impossible to collect large data sets on what occurs in exemplary districts or classrooms. Consequently, qualitative or even impressionistic assessments may be called for. The following statement from Reichardt and Cook (1977, p. 7) may clarify the disinction between quantitative and qualitative methods:

> By quantitative methods, researchers have come to mean the techniques of randomized experiments, quasi-experiments, paper and pencil "objective" tests, multivariate statistical analyses, sample surveys, and the like. In contrast, quali-

tative methods include ethnography, case studies, in-depth interviews, and participant observation.

Case studies of particular DEEP systems may yield substantial insights on such questions as:

1. How does the process of economic education work in the classroom? in the school? In the district?
2. Where DEEP is not working, what could make it work?
3. In considering the process of economics learning, what is the difference in perception among students, teachers, administrators, or laymen?
4. Does the process of economics learning differ before and after entering the DEEP process?
5. Can a more useful classification of the DEEP process be identified?

Network Participation. Qualitative studies bring a new perspective to economics education research. They present information in a form which may well be more readily useable by "consumers" of research; but, is less widely understood by "producers" of research and evaluation. Because of this, activities are urged which will encourage the use of these studies and train researchers in their conduct:

1. Researchers should be trained in the conduct of this type of research through workshops, publications, or other types of activities.
2. Monographs, journal articles, and other publications should include this type of research.
3. The JCEE should give recognition to exemplary DEEP districts based on qualitative or quantitative proof of their accomplishments.

Tools Needed. New instruments will be needed for collection of qualitative data. Surveys could include directed interviews or other techniques new to economics researchers. Therefore, literature from other disciplines should be reviewed to determine the types of surveys to be accomplished and the needed instruments to implement them.

IV. Future Role of this Research and Evaluation Agenda

Upon embarking on the expansion and enhancement of DEEP in 1983, the JCEE determined a need for a document presenting a description of research needs on DEEP. This agenda is designed as a memorandum to the JCEE, the economic education network, and to economists and educators regarding these research needs. It does not attempt to address, as a whole, the over-all research needs of economic education; nor, does it address general aspects of what economic educators can learn from other disciplines. This Research and Evaluation Agenda is a tool to assist in determining priorities and goals. The fact that the JCEE has already, in the past year during which this was being written, placed its funds in programs and projects suggested by this Agenda is an indication of its success. Further efforts in this area could be expanded through the designation of an individual to supervise the effort. This individual, on a part-time basis, could encourage efficient coordination of the effort and, through these activities, be of great benefit to the JCEE and to the expansion and enhancement of DEEP. The JCEE has, thus far, responded positively to the suggestions in this Agenda. Norming of the revised TEL was conducted in the spring of 1986 and norming of the new junior high school instrument, the Test of Economic Knowledge (TEK) in the fall of 1986. In addition, a national conference on research and evaluation of DEEP is tentatively scheduled for May 1987 (with the approval of the National Association of Economic Educators).

We in the network pride ourselves on our academic and scholarly credibility. As individuals acting in concert to develop and put into place a program for the increase in quantity and quality of economics teaching through the DEEP process, it is incumbent upon us to encourage evaluation and research into the effectiveness of the DEEP effort.

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